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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/811,036	03/26/2004	Peter Rac Shintani	40000-0052 (S015727.01)	9541
20480	75590	07/09/2009		
STEVEN L. NICHOLS			EXAMINER	
RADER, FISHMAN & GRAUER PLLC			LONSBERRY, HUNTER B	
10653 S. RIVER FRONT PARKWAY			ART UNIT	PAPER NUMBER
SUITE 150			2421	
SOUTH JORDAN, UT 84095				
			MAIL DATE	DELIVERY MODE
			07/09/2009	PAPER

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/811,036

Filing Date: March 26, 2004

Appellant(s): SHINTANI ET AL.

Steven L. Nichols
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 2/17/09 appealing from the Office action
mailed 6/27/08.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

2004/0252243 A1	STEWART	12-2004
6069462	FLYNN	5-2000

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. **Claims 1-16, 18-32, 34-45, and 47-61 are rejected under 35 U.S.C. 102(e) as**

being anticipated by Stewart, U.S. Patent Application Publication No.

2004/0252243 A1.

- a. Regarding Claim 1, Stewart discloses a system for controlling an exterior television antenna (page 2, paragraph [0028], lines 1-7) comprising:

an amplifier circuit mounted on a building exterior with said exterior television antenna and connected to said television antenna (FIG.1, element 14 and page 3, paragraph [0033], lines 7-9)

a control line extending into an interior of said building, said control line being connected to said amplifier circuit for controlling a gain of said amplifier circuit (page 5, paragraph [0049], lines 1-9; FIG. 1, element 18 and FIGs. 6-8, element 70).

- b. Regarding Claim 2, Stewart discloses a system of claim 1, he further discloses wherein said control line is connected to a television which outputs a control signal on said control line to control said amplifier circuit (page 5, paragraph [0054], lines 1-3; page 5, paragraph [0055], lines 7-15 and FIGs. 6-8, element 70).
- c. Regarding Claim 3, Stewart discloses a system of claim 2, he further discloses wherein said television outputs said control signal based on a channel being tuned by said television (page 2, paragraph [0027], lines 1-15).
- d. Regarding Claim 4, Stewart discloses the system of claim 1, he further discloses wherein said control line is connected to a control unit that is connected to a television and outputs a control signal on said control line to control said amplifier circuit (page 5, paragraph [0051], lines 2-6 and page 6, paragraph [0059], lines 23-24; although Stewart does not specifically disclose a control unit, his invention has the functionality of a control unit as described by applicant.)
- e. In regards to Claim 5, Stewart discloses a system of claim 4, he further discloses wherein said control unit outputs said control signal based on a channel being tuned by said television (page 2, paragraph [0027], lines 1-15).
- f. In regards to Claim 6, Stewart discloses a system of claim 1, he further discloses wherein said control line also provides power for said amplifier circuit (page 3, paragraph [0033], lines 9-12).
- g. In regards to Claim 7, Stewart discloses a system of claim 6, he further discloses wherein said control line carries a control signal which is a direct current (DC) voltage

signal comprising a voltage to power said amplifier circuit plus an additional voltage that varies to indicate a desired gain of said amplifier circuit (page 3, paragraph [0033], lines 9-12 and FIG. 6-8, element 70).

h. In regards to Claim 8, Stewart discloses a system of claim 1, he further discloses further comprising a signal line connected to said amplifier circuit for transmitting an amplified signal from said antenna to a receiving device in said building; wherein said control line is sheathed with said signal line (page 5, paragraph [0054], lines 1-8 and FIG. 6-8, element 70; although Stewart does not explicitly disclose sheathed lines, he teaches using a coax cable to connect amplifying circuitry to receiving devices).

i. In regards to Claim 9, Stewart discloses a system of claim 1, he further discloses wherein said amplifier circuit comprises a voltage controlled amplifier, wherein said amplifier receives power and a voltage controlling a gain of said amplifier over said control line (page 3, paragraph [0033], lines 9-12) and FIGs. 6-8, element 70).

j. In regards to Claim 10, Stewart discloses a system of claim 1, he further discloses wherein said amplifier circuit comprises: an attenuator connected to and controlled by said control line; and an amplifier, wherein said attenuator selectively attenuates a signal from said antenna before providing that signal to said amplifier (page 5, paragraph [0056], lines 9-24 and FIG. 7, elements 60 and 70; although Stewart does not explicitly disclose the use of an attenuator, its use is inherently disclosed, as it is a necessary element for gain adjustment).

k. In regards to Claim 11, Stewart discloses a system of claim 10, he further discloses wherein said attenuator is voltage controlled (page 3, paragraph [0033], lines 9-12; although Stewart does not explicitly disclose the use of an attenuator, its use is inherently disclosed, as it is a necessary element for gain adjustment).

l. In regards to Claim 12, Stewart discloses a system of claim 11, he further discloses wherein said control line also provides power for said amplifier circuit (page 3, paragraph [0033], lines 9-12 and FIG. 6-8, element 70).

m. In regards to Claim 13, Stewart discloses a system of claim 1, he further discloses wherein:

 said exterior television antenna comprises two or more antenna elements differently oriented (page 2, paragraphs [0025] and [0026]);

 said amplifier circuit further comprising a controller connected to said control line and an amplifier (page 5, paragraph [0051], lines 2-6 and page 6, paragraph [0059], lines 23-24; although Stewart does not specifically disclose a controller, his invention has the functionality of a controller as described by applicant); and

 said controller selectively provides signals from said antenna elements to said amplifier in response to a control signal on said control line to adjust a polarity of said antenna (page 2, paragraph [0027], lines 1-15; although Stewart does not specifically disclose polarity adjustments, it is inherently disclosed that this adjustment is part of the signal optimization process).

n. In regards to Claim 14, Stewart discloses a system of claim 13, he further discloses wherein said controller also selectively attenuates signals from said antenna elements based on said control signal to adjust an effective gain of said amplifier (page 5, paragraph [0056], lines 9-24; although Stewart does not explicitly disclose the use of an attenuator, its use is inherently disclosed, as it is a necessary element for gain adjustment).

o. In regards to Claim 15, Stewart discloses a system of claim 1, he further discloses:

 said exterior television antenna comprises two or more antenna elements differently oriented (page 2, paragraphs [0025] and [0026]);

 said amplifier circuit further comprises two or more amplifiers connected to respective antenna elements (page 6, paragraphs [0061] and [0062]; and

 said control line provides independent control signals to said amplifiers to selectively adjust a gain of each of said amplifiers to adjust a polarity of said antenna (page 2, paragraphs [0027] and [0028]; although Stewart does not specifically disclose polarity adjustments, it's inherently disclosed that this adjustment is part of the signal optimization process).

p. In regards to Claim 16, Stewart discloses a system of claim 15, he further discloses wherein said amplifier circuit further comprises a summer for combining signals from said two or more amplifiers (FIGs. 1-3, 5, and 8, element 22).

q. In regards to Claims 18, 34, and 47, they are analyzed and rejected for the same reasons set forth in the rejection of Claim 1 because the scope of the claims are similar to Claim 1.

r. In regards to Claims 19, 35, and 48, they have been analyzed and rejected for the same reasons set forth in the rejection of Claim 2 above because the scope of the claims are similar.

s. In regards to Claims 20 and 36, they have been analyzed and rejected for the same reasons set forth in the rejection of Claim 3 above because the scope of the claims are similar.

t. In regards to Claims 21, 37, and 49, they have been analyzed and rejected for the same reasons set forth in the rejection of Claim 4 above because the scope of the claims are similar.

u. In regards to Claims 22, 38, 50, they have been analyzed and rejected for the same reasons set forth in the rejection of Claim 5 above because the scope of the claims are similar.

v. In regards to Claims 23, 39, and 51, they have been analyzed and rejected for the same reasons set forth in the rejection of Claim 6 above because the scope of the claims are similar.

w. In regards to Claims 24, 40, and 52, they have been analyzed and rejected for the same reasons set forth in the rejection of Claim 7 above because the scope of the claims are similar.

x. In regards to Claims 25, 53, they have been analyzed and rejected for the same reasons set forth in the rejection of Claim 8 above because the scope of the claims are similar.

y. In regards to Claims 26, 41, and 54, they have been analyzed and rejected for the same reasons set forth in the rejection of Claim 9 above because the scope of the claims are similar.

z. In regards to Claims 27, 42, 55, they have been analyzed and rejected for the same reasons set forth in the rejection of Claim 10 above because the scope of the claims are similar.

aa. In regards to Claims 28, 43, and 56, they have been analyzed and rejected for the same reasons set forth in the rejection of Claim 11 above because the scope of the claims are similar.

bb. In regards to Claims 29 and 57, they have been analyzed and rejected for the same reasons set forth in the rejection of Claim 12 above because the scope of the claims are similar.

cc. In regards to Claims 30, 44, and 58, they have been analyzed and rejected for the same reasons set forth in the rejection of Claim 13 above because the scope of the claims are similar.

dd. In regards to Claims 31 and 59, they have been analyzed and rejected for the same reasons set forth in the rejection of Claim 14 above because the scope of the claims are similar.

ee. In regards to Claims 32, 45, and 60, they have been analyzed and rejected for the same reasons set forth in the rejection of Claim 15 above because the scope of the claims are similar.

ff. In regards to Claim 61, it has been analyzed and rejected for the same reasons set forth in the rejection of Claim 16 above because the scope of the claims are similar.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. **Claims 17, 33, 46, and 62 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stewart as applied to claims 1, 18, 34, and 47 above, and further in view of Flynn, U.S. Patent No. 6,069,462.**

a. In regards to Claim 17, Stewart does not explicitly disclose a system comprising of a motor for selectively rotating an antenna to optimize reception. However, Flynn discloses a system that provides a control unit for a motor of a rotary television antenna which is actuated by a signal representative of a selected channel to thereafter automatically effect antenna rotation (Flynn, column 1, lines 38-43).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to use a motor to selectively rotate an antenna as taught by Flynn in the invention of Stewart because Flynn teaches that provides optimized reception (Flynn, column 1, lines 38-43).

b. In regards to Claims 33, 46, and 62, they have been analyzed and rejected for the same reasons set forth in the rejection of Claim 17 above because the scope of the claims are similar.

(10) Response to Argument

Arguments with respect to claim 1:

Appellant argues that Stewart does not teach or suggest the claimed "control line extending into an interior of said building, said control line being connected to said amplifier circuit for controlling a gain of said amplifier circuit." The Examiner cites paragraph 49 for support, but there is no teaching or suggestion in Stewart that coax cable 70 is utilized to control the gain of an amplifier circuit as claimed in claim 1. Appellant notes that Stewart describes communications line 70 merely as being

"operative to carry multiple television signals and communication signals. There is no teaching or suggestion that the coax line 70 is or functions as the claimed control line "extending into an interior of said building, said control line being connected to said amplifier circuit for controlling a gain of said amplifier circuit." (Pages 9-10).

The Examiner respectfully disagrees. The Examiner notes that the language "a control line extending into an interior of said building, said control line being connected to said amplifier circuit for controlling a gain of said amplifier circuit" is being interpreted by applicant to require elements which are not present in the claim. Namely, the claim does not require a direct connection between the control line and the amplifier; the open ended comprising language does not prohibit any additional devices between the control line 70 and the amplifier circuit carried within TSP 14. Nor is there a requirement for a control signal to control the gain of an amplifier to be carried by the control line from a point originating at the user equipment. Instead the claim merely requires a control line which extends into the interior of the building, has a connection to an amplifier circuit which controls the gain of the circuit. The claim is silent regarding a direct command to control gain to be transmitted via the control line. Rather a user request command which is interpreted and results in the gain being adjusted would read upon the claim.

In this case, Stewart discloses in paragraph 33, an antenna 12 and TSP 14 which are placed external to the structure 16. A number of TSRs 20n allow a user to select or tune to a channel via request signals provided to TSP 14 (paragraph 37).

These control and request signals are provided via coaxial cable 70 (paragraph 54) which connects to the TSRs within distribution area 18 to TSP 14 (figure 7). This coax 70 is coupled to a Phase & Gain adjustment & summer signal processing circuit 60 (an amplifier) via communications 76, processor 72 (figure 7). Processor 72 in turn is connected to amplifier 60 via connection 86, as well is tuner 52, A/D converter 56.

The resource <http://webopedia.com/TERM/a/amplifier.html> defines an amplifier as "An electronic device or electrical circuit that is used to boost (amplify) the power, voltage or current of an applied signal."

Stewart's TSP 14 with gain adjustment processing 60 clearly adjusts the gain of a signal (a function of an amplifier) and thus meets the definition of an amplifier (paragraph 56).

Stewart teaches in paragraphs 54-56, that a user may request a channel change via a bidirectional pathway coax 70. The user commands are interpreted by a processor 72 (paragraph 59) which relays commands to a tuner 52 to tune to a particular TV channel and relays commands to signal processing 60 as appropriate (paragraph 60) including for gain (paragraph 56, 62 and 63). Figure 9, discloses a flow chart which includes a step 110 in which a tuned channel has the phase and gain adjusted.

As Stewart discloses, that the TSP circuitry, and antenna are mounted to the exterior of the building, that the control line 70 is connected from the TSP to the TSRs located inside the building, the control line connected (indirectly) to the amplifier circuit 60 which controls the gain of the circuit, and the control line transmits commands which

change the gain of the amplifier circuit, Stewart teaches each and every element of claim 1.

Appellant argues that the portions previously cited by the Examiner do not teach suggest or even mention adjusting the gain of an amplifier circuit. Appellant further argues that there is clearly no teaching that the coax line 70 is or functions as a control line "extending into the interior of said building, said control line being connected to said amplifier circuit for controlling a gain of said amplifier circuit." (pages 10-11).

As discussed above, figure 9 step 110, paragraphs 56, 60, 62 and 63 clearly disclose that circuit 60 adjusts the gain of a television channel signal. As disclosed above, coax 70 clearly routes signals (channel selection commands) which are interpreted by processor 72 to change a tuned channel, the new signal is then gain adjusted. Coax 70 clearly extends into the interior of the building as the TSP 14 is mounted to the exterior of the building and TSRs are located inside the building. The claim is silent regarding any requirement of a direct control command to control gain and allows for a command which results in a local processor to adjust the gain of a newly tuned to signal.

Arguments with respect to claims 18, 34, and 47:

Appellant makes similar arguments as presented in regards to claim 1 (pages 11-13). With regards to claim 47, Appellant argues that the final office action fails to

individually address claim 47 including how or where Stewart teaches or discloses the claimed control line which controls gain based on the channel being tuned to by the receiving device. (pages 13-14).

The Examiner notes that the arguments presented for claims 18, 34 and 47 substantially correspond to claim 1 as addressed above. With regards to claim 47, the examiner notes that the claim does not require a tuner to be located within the receiving device. Rather the claim requires a control line connected to said amplifier circuit for controlling a gain of said amplifier circuit based on a channel being tuned by said receiving device. In Stewart, a channel change request transmitted from a receiving device 20, results in a processor 72 tuning to a new channel for the respective device 20, this newly tuned to signal has its gain adjusted prior to distribution to the respective receiving device 20 as discussed above. Since the gain is adjusted for the tuned channel as the result of a command transmitted via coax line 70, Stewart teaches each and every element of claims 18, 34 and 47.

Arguments with respect to claims 3 and 5:

Appellant argues that Stewart does not teach or suggest or even mention a control signal that controls the gain of an amplifier circuit based on a channel being tuned by a television. Stewart teaches absolutely no connection between the gain of an amplifier circuit and a particular channel being tuned by a television or other receiving device. The Examiner previously cited paragraph 56 as teaching this element. The cited

portion merely states that the signal processing 60 separately adjusts the phase and gain of each TV channel signal. (pages 14-15).

The Examiner notes this has been addressed above. The claim is completely silent regarding a gain adjustment command directly to the amplifier circuit. Rather the claim requires outputting a control signal based on a channel being tuned by the television. In Stewart, a channel change request transmitted from a receiving device 20, results in a processor 72 tuning to a new channel for the respective device 20, this newly tuned to signal has its gain adjusted prior to distribution to the respective receiving device 20 as discussed above.

Arguments with respect to claims 7, 9, 10 and 15:

Appellant argues that the Examiner has failed to indicate how or where Stewart teaches a control line that carries a control signal which is a direct current voltage signal comprising a voltage to power said amplifier circuit plus an additional voltage that varies to indicate a desired gain of said amplifier circuit." (pages 15-16).

The Examiner notes that claim 7 is silent regarding transmitting this signal from the end user device or the presence of any intermediate device. In Stewart, a channel change request transmitted from a receiving device 20, results in a processor 72 tuning to a new channel for the respective device 20, this newly tuned to signal has its gain adjusted prior to distribution to the respective receiving device 20 as discussed above.

As cited in the rejection at paragraph 33, lines 9-12, power for the TSP may be provided by the connection between distribution area 18 and TSP 14. Additionally since the tuned to signal will have an initial gain, gain merely being a ratio of a signal output to signal input, and this signal is transmitted via line 58 (an intermediate point between amplifier 60 and coax 70) this signal is a digital signal (paragraph 56), and processor 72 transmits a gain adjustment signal via line 86 to control the gain of amplifier 60 (paragraph 60), Stewart teaches each and every element of claim 7.

Appellant argues in respect to claim 9, that the TSP taught by Stewart digitizes the signals before digitally adjusting the gain and therefore does not teach or suggest the claimed voltage controlled amplifier of claim 9 and fails to teach how or where Stewart teaches that the claimed "amplifier receives power and a voltage controlling a gain of said amplifier over [a] control line". (Page 16).

The Examiner notes that the above arguments apply equally to the Examiners discussion of claim 7. Namely that processor 72 transmits a gain adjustment signal via line 86 to control the gain of amplifier 60 (paragraph 60), Likewise, Examiner notes that paragraph 34 teaches the use of a preamp (not shown in figure 2) for the channels received by the antenna.

Appellant argues with respect to claim 10, that there is no attenuator shown in figure 7 of Stewart . Rather Stewart teaches tuning desired signals from the antenna

array and digitizing signals. Appellant asserts that the Examiner has failed to establish that Stewart necessarily includes an unmentioned attenuator. (Pages 16-17).

As a preliminary matter, the Examiner notes that Appellant has failed to address the merits of the Examiner's inherency argument, merely asserting that Stewart does not inherently include such an element, but fails to disclose any such alternative which would not render inherency. The Examiner notes that paragraph 34 teaches the use of a preamp (not shown in figure 7) for the channels received by the antenna prior to transmission to amplifier 60. The function of an attenuator is merely to reduce the gain of a signal, effectively to apply a gain of less than 1. Given that multiple TV signals are gain aligned and summed together (paragraphs 62-63) some of the signals are going to have their respective gains increased or decreased.

Appellant argues with respect to claim 15, that although the Advisory directs attention to figure 8 and paragraphs 62-63 of Stewart, these teachings do not disclose the claimed "control line that provides independent control signals to said amplifiers to selectively adjust a gain of each of said amplifiers to adjust a polarity of said antenna." (page 18).

The Examiner respectfully disagrees. Antenna array 12 clearly contains a number of antenna elements mounted to the exterior of the structure (figure 1). Paragraph 26 discloses that directional antennas or a combination of uni-directional and directional antennas may be used to constitute the antenna array 12. Since Stewart teaches directional antennas this means that they are oriented differently from one

another. Figure 8 clearly shows a plurality of amplifier circuits (P&G&A&Sa-n) 60 which are coupled to a processor 72. As control line 70 provides selection commands which are interpreted by processor 72 which supplies commands to each tuner 52 as well as additional gain adjustment commands separately (independently) for each tuner and respective amplifier (paragraphs 62-63), the signals are separated out prior to being summed together so that there is no overlap, Stewarts teachings meet the above limitations.

Arguments with respect to claims 17, 33, 46 and 62:

Appellant argues that the rejection should not be sustained for at least the same reasons given above (page 18).

The Examiner notes that each and every limitation has been taught by the combination of Stewart and Flynn as referenced above.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Hunter B. Lonsberry/

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